The Mindful Consumer: The Effect of Mindful Meditation on Recall of Advertisements

Honors Undergraduate Thesis

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Abstract

Originating as a concept from Buddhist psychology, mindfulness has found its way into countless clinical and social psychology journals. Much of the research has shown both short and long-term effects of mindfulness on sustained attention, emotional regulation, and attention switching. Mindfulness has been shown to have a substantial impact in these areas, but research on how mindfulness impacts consumer behavior is limited. As such, this work explores how mindfulness impacts an important aspect of consumption: consumers' memory. Specifically, we examined whether meditation induced mindfulness affects consumers ability to recall details from advertisements such as brand name, product attributes, and other elements of the advertisement. We collected data from 300 participants through the Amazon Mechanical Turk online platform. Participants were either be subjected to a guided meditation to invoke mindfulness or assigned to a control group. Participants were then shown one of two advertisements: one for a product they may be familiar or one for a product that is unfamiliar. We then asked participants to write all they can remember from the advertisement to assess recall. We then compare the experimental group's ability to recall details from an advertisement with that of a control group. We found that those exposed to the mindful meditation had a decreased recall of the central merits of the advertisement compared to that of the control group. To the contrary, those in the mindful group had an increased ability to recall the peripheral cues of the advertisement in the unfamiliar ad condition. These findings provide evidence that mindful meditation can have an effect on consumers' consumption of advertisements thus changing the way marketers choose to communicate to the mindful consumer.

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1. Introduction

In recent years, Mindfulness has been a topic for much discussion. Mindfulness is defined as the self-regulation of attention so that it is maintained on the current experience, as well as having an orientation towards one's experience at the current moment (Bishop, Lau, Shapiro, Carlson, Anderson, Carmody, Segal, Abbey, Speca, Velting, Devins, 2004). Mindfulness is more than just a temporary state immediately following meditation, it can have long term effects for those who practice mindful techniques often. One study looking at the neural responses from emotional stimuli shows a clear difference in experienced meditators from that of beginners or those who do not practice mindfulness (Taylor, Grant, Daneault, Scavone, Brenton, Roffe-Vidal, Courtemanche, Lavarenne, Beauregard, 2011). Mindfulness can be induced by a number of ways such as meditation (Zeidan, Johnson, Diamond, David, Goolkasian, 2010) and even some forms of yoga (Shelov, Suchday, Friedberg, 2009). A survey conducted by Yoga Alliance and *Yoga Journal* found that the number of Americans doing yoga has increased by 50% in the last four years, leading marketers to place more consideration on the mindful consumer. Many researchers have been exploring the clinical applications of Mindfulness, but the research has not yet been extended to look at the effects Mindfulness may have on consumers' intake of marketing materials. This research aims to initiate exploration into how Mindfulness changes how consumers' perceive and interact with advertisements. With the wealth of information available, marketers now know more than ever about their customers. As a result, marketers are now able to tailor their efforts towards more specific groups previously possible. Understanding how a consumer will process an advertisement, will allow marketers to create more effective materials, in turn driving a larger return on investment for companies. Findings presented in this paper show differences in how people in a mindful state process advertisements. Due to this marketers will want to identify what consumers practice mindful techniques and create materials more catered to their segment. As the number of Americans partaking in yoga continues to rise, we can expect to see an increased relevance of the new mindful consumer.

2. Literature Review

Many studies have looked at the effects of mindfulness in numerous areas, but in early research few papers operationalized mindfulness the same way. In 2004, a definition was proposed that defined mindfulness as the self-regulation of attention aimed to bring a non-elaborative awareness to the current experience and an orientation of acceptance and curiosity towards the current moment (Bishop, Lau, Shapiro, Carlson, Anderson, Carmody, Segal, Abbey, Speca, Velting, Devins, 2004). This is how we will define mindfulness in our study.

Numerous studies look at the effects of mindfulness on sustained attention. Results found that mindfulness meditation led to improvements in sustained attention through the Wilkins' Counting Test, where participants were asked to report the number of auditory beeps they hear in a series (Valentine & Sweet, 1999), and a n-back task, where participants are asked to indicate if the probed letter was the same or different than the string presented two stimulus back (Zeidan, Johnson, Diamond, David, Goolkasian, 2010). A meta-analysis found similar evidence for an increase in attention from mindful meditation ($r = 0.3006$, $k = 8$) (Eberth & Sedlmeier, 2012). This improved attention should lead to an increase in recall as attention is necessary for encoding, the process of converting an object of interest into a format that can be stored into memory.

This increase in attention can also be viewed as an increase ability for consumers to view ads. Testing of the Elaboration Likelihood Model found that ability plays a large role in the extent of processing of persuasive messages (Petty & Cacioppo, 1986). The Elaboration Likelihood Model found that people with varying levels of elaboration towards persuasive messages will focus on different parts of the arguments. The Elaboration Likelihood Model breaks these persuasive messages into two parts, peripheral cues and central merits. Being that the goal of most advertisements is to persuade consumers into purchasing the product, we will adopt the ELM's breakdown of persuasive arguments into peripheral cues and central merits for this study. Peripheral Cues can be defined as cues in a persuasive message that invoke affective states that are then associated with the message (Petty & Cacioppo, 1986). These cues can also be responsible for acting as guiding rules or inferences (Petty & Cacioppo, 1986). Things such as an attractive source, pleasant music, or the number of arguments can all serve as peripheral cues. Central Merits, on the other hand, are the qualities or attributes of the message that contribute to the actual value of the message or object in the message. We will define things such as brand name, scientific claims, and product attributes as Central Merits in this study. We believe that mindfulness will set the stage for a higher level of elaboration towards persuasive advertisements, therefore, and increased focus on the central merits leading to an increased recall of these items.

Links between mindfulness and increased working memory capacity have also been uncovered. A study looking at the effects of brief mindfulness training found that mindfulness increased scores on a forward/backward digit span test where participants are asked to recite multiple strings of numeric digit correctly reflecting short term memory capacity (Zeidan, Johnson, Diamond, David, Goolkasian, 2010). Other studies have also shown mindfulness can increase working memory capacity (Zeidan, Johnson, Diamond, David, Goolkasian, 2010; Chambers et al. 2008). This increase in working memory capacity has also been linked to an improved recall performance (unsworth, 2015; Unsworth & Spillers, 2010, Unsworth, 2009). These improvements to working memory capacity due to mindfulness, we expect mindfulness to also contribute to an improved recall of advertisements.

3. Hypothesis

H1: Participants exposed to a mindful meditation will have greater ability to recall information from advertisements than that of the control group.

4. Methodology

4.1 Participants

We collected data on 300 adult respondents from Amazon Mechanical Turk. These participants have signed up to be a Mechanical Turk worker and will opt in to taking the study. These participants will receive one dollar upon completion of the study.

4.2 Interventions

Participants were randomly assigned to either the mindfulness group or the control group. Participants in these groups were then randomly assigned to an ad familiarity condition where participants were shown one of two advertisements for different products, one they are likely to be familiar or one which they are likely to be unfamiliar.

4.2.1 Mindfulness Meditation

Participants in the experimental group were asked to listen to a 3 minute guided breathing meditation shown to induce mindfulness. Participants are asked to relax and close their eyes. They are then instructed to focus their attention on their breathing and the sensations occurring from their abdomen, nostrils, and back. If their attention veers from their breathing, they are instructed to acknowledge the thought, simply let it go, and return attention to their breathing.

4.2.2 Control Group

Participants in the control group were subjected to a 3-minute audio clip from a Ted Talk about trying something new for thirty days.

4.2.3 Familiar Advertisement

Participants assigned to the familiar ad condition were shown an advertisement for Tide Pods that aired during the products launch.

4.2.4 Unfamiliar Advertisement

Participants assigned to the unfamiliar ad condition were shown an advertisement for Dettol Laundry Cleanser a product only available to consumers in the U.K.

4.3 Materials

4.3.1 Freiburg Mindfulness

The Freiburg Mindfulness Inventory (FMI). The FMI is a self-report measure that assesses the mindfulness experience of an individual. This measure uses a 14-item assessment using statements like "I watch my feelings without getting lost in them". These assessments are scored on a 4 point Likert scale from 1 (rarely) to 4 (always). The scores range from 14 to 56 and higher scores indicate a greater level of mindfulness. In this study, the FMI will serve as a manipulation check for participants' ability to move into a mindful state. It also will be used to measure changes in mindfulness as a result from the brief mindfulness training.

4.3.2 Cognitive Task

Participants were asked to list as many zoo animals as they can over a one-minute span. This task is meant to clear short term memory of the participant to better assess recall later in the study.

5. Procedure

5.1 Study 1

5.1.1 Objective

This study aims to further explore the link between brief mindfulness and improvements in recall. Much research has been done in both the clinical and social psychology fields looking at this link, but little research has yet to see how this interaction between mindfulness and recall translates into consumers' interactions with advertisements. Our study looks to understand how brief mindfulness affects a consumer's ability to recall advertisements.

5.1.2 Methods

The participants will select the study and be directed to a link leading them to a Qualtrics survey. Half of the participants were directed to the control group survey where the other half were directed to the experimental group survey. Both groups were then asked to put on

headphones or turn on their speakers and to mute any other distractions in the external environment. Participants in the experimental group were exposed to a mindful meditation condition. Participants in the experimental group were then subjected to a guided breathing meditation. In guided breathing meditation audio clip, participants were asked to relax and close their eyes. They were then instructed to focus their attention on their breathing and the sensations occurring from their abdomen, nostrils, and back. If their attention veers from their breathing, they are instructed to acknowledge the thought, simply let it go, and return attention to their breathing. This exercise took place for 3 minutes. Those assigned to the control group were instructed to listen to a 3 minute video about trying something new for 30 days. Participants in both groups were then randomly assigned to either a familiar or unfamiliar ad condition. Those in the familiar condition were shown a Tide Pods advertisement, one of the leading laundry products in the U.S. Those in the unfamiliar condition will be shown a Dettol Laundry Cleanser advertisement, a product only available in the Europe and therefore a brand that participants are unlikely to have encountered. After viewing the advertisement, both groups were subjected to a cognitive task where they were asked to list as many zoo animals as they can over a one-minute time span. This was put in place to clear their working memory. These groups were then directed to a question asking them to list all they can recall about the advertisement they viewed earlier in the study. After both groups had finished listing what they could recall from the advertisement they were asked to complete the Freiburg Mindfulness Inventory explained in the measurement section above to check if the mindful manipulation was successful. Participants were then directed to four questions assessing familiarity. These questions assessed familiarity with the brand, product, and advertisement as well as the participant's engagement level in the laundry detergent category. After the subjects' were finished with the final questionnaire, they were directed to a message thanking them for their participation in the study and given a unique code they used to redeem their $1 incentive.

6. Data Analysis

We first ran an independent t-test to look at the difference in scores on the FMI between the experimental and control groups. This was used to ensure that the control and experimental group differ in terms of their level of mindfulness and serve as a manipulation check. We then ran an independent t-test to look at familiarity scores across both ad groups to ensure our manipulation for familiarity worked. Next the data from the questionnaire accessing recall of the advertisement was scored on two areas, peripheral cues and central merits. The peripheral cues were defined as details about the narrator (gender, age, ect), aspects unrelated to the product (colors, music, setting/props, ect), details about the actors (race, gender, age, ect.), and actions unrelated to product use (driving, working out, ect.). The central merits used to assess recall were Brand name, scientific claims about product, and product tagline. These measures were kept consistent across both advertisements. These scores were then analyzed using two different tests. The first being a Binomial Logistic Regression to see if either group differed in their ability to

recall at least one central merit or peripheral cue. Next we ran three different Two-way ANOVA tests to assess the differences in recall between groups. The first looked at the differences in the total recall (peripheral + central) between groups. The second looked at differences in the total number of peripheral cues recalled between groups. The third Two-way ANOVA looked at differences in the total number of central merits recalled between groups.

7. Results

7.1 FMI Manipulation Check

First we examined whether participants exposed to the mindfulness condition showed a difference in scores on the FMI compared to those in the control group. Mindfulness in both the mindful mediation and control groups were compared using and independent t-test. Results did not show any significant differences in participants' FMI scores between the mindful meditation and control groups ($M_{\text{control}} = 39.54$ vs. $M_{experimental} = 38.07$; $t(278) = 1.74$, $p = .083$).

7.2 Familiarity Manipulation Check

We then looked to see if participants in the familiar condition showed differences in familiarity scores compared to participants in the unfamiliar condition. Familiarity scores were compared using an independent samples t-test between both ad groups (unfamiliar and familiar). The independent t-test returned significant results that familiarity did in fact differed between both ad groups ($M_{\text{unfamiliar}} = 9.33$ vs. $M_{familiar} = 14.56$; $t(278) = -13.912$, $p < .000$). This shows that our manipulation of familiarity was successful.

7.3 Total Recall

Next we examined whether participants in the mindfulness condition showed differences in total recall of elements of the advertisement compared to participants in the control condition. This was analyzed by using a Two-way ANOVA test across the mindfulness vs control condition and the familiar ad vs unfamiliar ad conditions. No significant differences in total recall were found across any groups. No main effect of mindful meditation ($F(1, 278) = 0.937$, $p = .334$) was found from our analysis. We did find a main effect for ad familiarity in that those in the familiar ad condition showed improvements in total recall compared to that in the unfamiliar group ($F(1, 278) = 6.948$, $p = .009$). There was also no evidence of an interaction between the two factors ($F(1, 278) = 1.845$, $p = .175$).

7.4 Recall of Central Merits

We then look at differences in recall of the central merits between the mindful meditation vs control conditions and the familiar ad vs unfamiliar ad conditions. The first analysis looking at recall of central merits was a Binary Logistic Regression. Recall of at least one central merit was

assessed across the familiar vs. unfamiliar conditions, mindfulness vs control conditions, and their interaction. Results from the Binary Logistic Regression did not show any effect of mindful meditation on participants ability to recall at least one central merit (β = -.455, SE = .338, χ^2 = 1.810, p = .179).

Table 1

Variables in the Equation

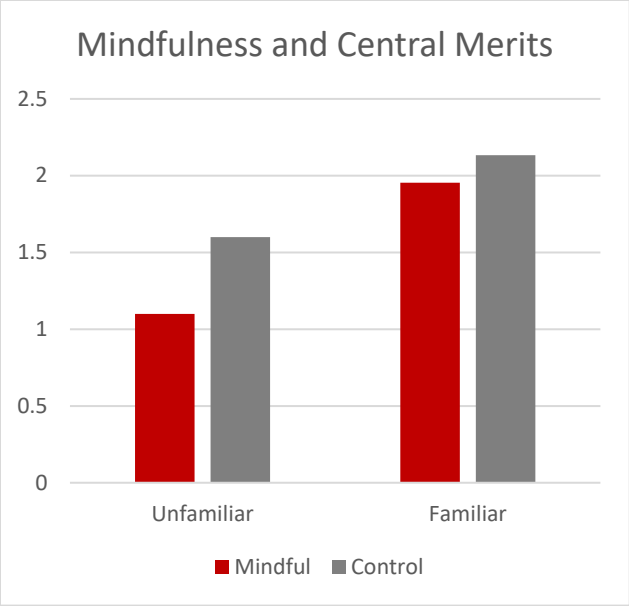
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Ad Group by Group	-.348	.725	.230	1	.632	.706
	Group	-.455	.338	1.810	1	.179	.635
	Ad Group	2.386	.571	17.493	1	.000	10.875
	Constant	.288	.242	1.419	1	.234	1.333

a. Variable(s) entered on step 1: Ad Group * Group , Group, Ad Group.

We ran a Two-way ANOVA analysis to look at any differences in the total number of central merits recalled across ad group, mindfulness manipulation group, and their interaction. Results from the analysis found that those exposed to the mindful meditation recalled a lower number of central merits when compared to that of the control group (F(1,278) = 3.838 ;p = .051). This effect is illustrated in figure 1.

It is important to point out that the Binary Logistic Regression and Two-way ANOVA tests both found an effect of ad group on recall of central merits. These tests found that participants in the familiar group were more likely to recall at least one (β = 2.386, SE = .571, χ^2 = 17.493, p < .000) and recall a larger number of central merits (F(1, 278) = 18.206; p < .000) than that of the unfamiliar group respectively. These findings are in-line with expectations set by the Elaboration Likelihood Model.

Figure 1



7.5 Recall of Peripheral Cues

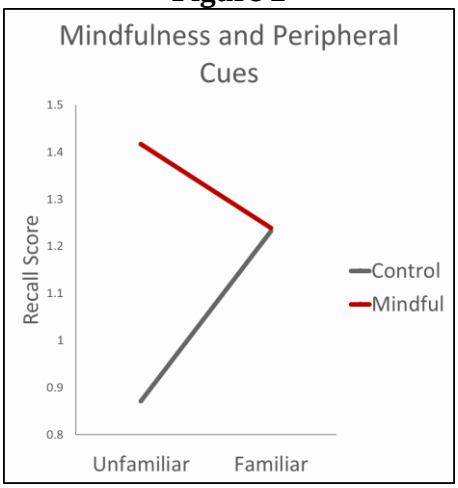
A similar approach was used to assess differences in the recall of peripheral cues across both conditions. We first ran a Binary Logistic Regression to compare the differences in participants' ability to recall at least one peripheral cue from the advertisement. The analysis found that mindful mediation lead a higher likelihood for participants to recall at least one peripheral cue compared to that of the control group ($\beta = .740$, SE = .342, $\chi^2 = 4.685$, p = .03). Additionally, our analysis found that ad group also had an effect on participants' recall of at least one peripheral cue ($\beta = .730$, SE = .345, $\chi^2 = 4.465$, p = .035). Conversely, no interaction was found between ad group and the mindful manipulation ($\beta = -.288$, SE = .242, $\chi^2 = 1.419$, p = .234).

We then ran a Two-way ANOVA to find any differences in the total number of peripheral cues recalled between ad group, mindful manipulation, and their interaction. Participants exposed to the mindful meditation were found to recall more peripheral cues than that of the control group ($F(1, 278) = 3.718$; p = .055). There was no effect of ad group found on the recall of peripheral cues ($F(1, 278) = .409$; p = .523). However the analysis did suggest a possible interaction of ad group and mindfulness ($F(1, 278) = 3.518$; p = .062).

Due to the marginal significance of the interaction, we ran an additional analysis to better understand the simple effects taking place. The analysis revealed that there was no significant conditional effect of mindful meditation for participants in the familiar ad condition ($M_{\text{control familiar}} = 1.232$ vs. $M_{\text{mindful familiar}} = 1.225$; p = .970 for the simple effect). The analysis did revealed that there was significant conditional effect of mindful meditation for participants in the

unfamiliar ad condition ($M_{\text{control unfamiliar}}$ = .871 vs. $M_{\text{mindful unfamiliar}}$ = 1.437; p = .007 for the simple effect). These results are illustrated in figure 2.

Figure 2



8. Discussion & Future Research

Although we did not see any effect of mindful mediation on overall recall, our data suggests that mindful meditation can have an effect on how consumers process advertisements, thus affecting consumers' recall advertisements. Our study found that mindful meditation can decrease consumers' recall of the central merits in an advertisement. Whereas, mindful meditation can actually increase the recall of peripheral cues for advertisements and products that the consumer is unfamiliar with. This leads us to believe that mindful meditation may lead consumers to designate the same level of attention to all advertisements regardless of familiarity. This may explain the lack of effect on total recall. However, mindful meditation may lead consumers to adjust their attention to the different areas of an advertisement (central or peripheral) depending on the level of familiarity. Therefore, when an advertisement is deemed unfamiliar or irrelevant a mindful consumer may focus all of their attention on the peripheral cues rather than the central merits, whereas, a normal consumer would reduce their overall attention and elaboration when presented with an unfamiliar or irrelevant advertisement. Whereas, a mindful consumer exposed to a familiar advertisements may shift some of their attention away from the peripheral cues to the central merits of the advertisement. This could explain why we see a decrease in peripheral recall and an increase in central merit recall for the mindful meditation condition when moving from the unfamiliar ad condition to the familiar ad condition.

Some limitations are present in this study. Our study was unable to find any increase in FMI scores for the mindful meditation condition compared to that of the control. This potentially signals that our manipulation was not strong enough to invoke mindfulness or we choose the

wrong scale to assess state mindfulness. To address this, further research should pursue the use of other mindfulness scales that are able to detect changes in state mindfulness after brief meditations and possibly test different meditation lengths. Control is another limitation of this study as it was conducted online via Amazon's MTURK. This limited our ability to monitor participants throughout the study to ensure the participants were following the correct protocol. Therefore, future studies should be held in a lab setting to allow for an increased level of control. Another important note about this study is we only looked at recall of advertisements for products in the laundry detergent category and the study happened to take place after a viral "Tide Pod Challenge" that may have affected participants in the familiar ad condition. Additionally, further research should be done to explore the effect of mindful meditation on consumer recall. Research should look to expand on the moderating effect of ad familiarity in the area of ad relevance to see if a similar effect holds true. One area not addressed in this research is the effect of long term mindfulness on consumer recall rather than state mindfulness.

9. Implications

These findings begin to shed light on just how different the mindful consumer may be from the everyday consumer. This may have major implications for marketers whose customers engage in mindfulness activities. As these consumers' consumption of advertising messages may vastly differ from that of other consumers. Marketers will need to adjust their messaging to best cater to these mindful consumers and get the best return on their marketing spend. Additionally as the younger generations, more heavily engaged with mindfulness activities, rise to buying power, marketers need to ensure they are tailoring marketing efforts toward this rising mindful consumer group.

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